

TOWARD AN UNDERSTANDING OF THE URBAN FIELD CONCEPT — A REVIEW

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The concept of the "urban field" was coined by J. Friedmann and J. Miller in an article published in 1965. Using this term to define the emerging new pattern of the city, they wrote that, in the past,

" growth in and around the (metropolitan) cores has drawn off the productive population, economic activities, and investment capital of the periphery, but the forces of urbanization are now in the process of reversing these trends.

Look ahead to the next generation, we foresee a new scale of urban living that will extend far beyond existing metropolitan cores and penetrate deeply into the periphery. Relations of dominance and dependency will be transcended. The older established centers, together with the intermetropolitan peripheries that envelop them, will constitute the new ecological unit of America's post-industrial society that will replace traditional concepts of the city and metropolis. This basic element of emerging spatial order we shall call the Urban Field. (Friedmann and Miller, 1965, p. 313)."

They view the urban field as an "enlargement of the space for urban living into the open periphery." This trend has already made outmoded the differences between what is properly urban and properly rural, at least from the sociological and economic standpoints. These enlarged cities are "centered upon core areas (SMSA's) of at least 300,000 people and extending outwards for a distance equivalent to two hours driving (approximately 100 miles). Such a system of urban fields contained, in 1965, between 85 and 90 percent of the total U.S. population" (Friedmann and Miller, 1965, p. 313—4).

The expanding urban sphere stimulated the writers to suggest that expansion forces might eliminate distinctive problem areas on the periphery. Other writers who dealt with the expanding urban area expressed the same idea (Lamb, 1975, Berry and Kasarda, 1972). Before implementing their suggestion in a regional development strategy, however, a few questions must be answered: What are the expansionist forces? How will they affect the people of the problem areas in the periphery? How can they be manipulated? There may be a great potential in projecting the economies of scale of an existing large city instead of creating new growth poles (where it is unnecessary). First, however, we need to understand what the urban field really is. Friedmann and Miller (1965, p. 319) themselves admitted that "the pattern of the urban field will elude easy perception by the eye... [and] will no longer be directly accessible to the senses."

This paper will address itself toward a better understanding of the urban field concept, so as to open the way for further research regarding the other questions.

The structure of the paper will follow this path: First we will try to define and characterize more precisely the concept of the urban field as perceived by its originators. In order to gain more knowledge about it we will relate it to other terms associated with the growing urban area. The first and closest term is the "Daily Urban System" (DUS), which was used recently to delineate the twenty historic core cities of the United States (Adams, 1976). The other term is the "urban fringe", which has generated much literature about the expanding area of the city. A comparison of these concepts may provide a better insight into the evolving pattern of the urban field.

With this insight we will relate the urban field to the classical urban model, and examine their validity for the new urban unit. Finally, we will close our discussion with a summary of the major components of the urban field.

The study will be oriented toward land use and economic aspects of the urban field rather than toward its social-behavioral dimensions.

DEFINITION OF THE URBAN FIELD

In order to gain a better understanding of the urban field concept we must refer to the article by the coiners of the term. Friedmann and Miller perceived the urban field as a large and coherent ecological unit of settlement, characterized by four basic elements:

1. The urban unit spreads over an unprecedentedly large area (a circle with a radius of about 100 miles).
2. Despite the large scale, it has to be considered as one unit, combining the heretofore separately defined urban area and its rural market area.
3. Despite the large scale dispersion of the urban field it maintains its cohesiveness. Thus, "exchange relations within each field will be more intensive than among them."
4. This is an ecological unit where the human needs coincide with the physical realities. "The social and cultural life will form a rich and varied pattern capable of satisfying most human aspirations within a local setting."

One may agree or disagree with this broadened perception of the urban setting. Many scholars who have analyzed recently published statistical data have discovered a new trend of deconcentration which basically supports Friedmann and Miller's forecast. Since 1970 the growth rate of metropolitan areas has decreased to a level well below the national average, while the growth rate of nonmetropolitan areas has increased to more than the national average (Berry, 1976; Sternlieb and Hughes, 1977). During the period 1970 — 1974, "the twenty largest metropolitan complexes experienced a net migration outflow of 1.2 million people, while nonmetropolitan territories had a net migration inflow of 1.5 million (Sternlieb and Hughes, 1977). All the writers admit that the rural counties most affected by the new trend are those located at the outskirts of the present SMSA counties. Beale (1975, p. 235) showed that between 1970—1973 the SMSA neighboring counties possessed the highest growth rate (4.7 percent), while other rural counties grew by 3.7 percent." descriptive

These new trends lend support to two elements in the definition of the urban field. They show the enlarging scale of the urban unit, and the tendency toward eliminating the differences between the urban core and the urbanizing periphery. The other two elements, concerning ecological unity and cohesiveness, are still no more than speculative thoughts.

Additional evidence concerning the ecological unity

Another new term concerning the enlarged urban unit — DUS — was coined by Doxiadis in 1967 (see Berry and Kasarda, 1977), and elaborated later by Berry et al. (1968). In his recent book, *Contemporary Urban Ecology*, Berry summarizes the procedure they used to determine the DUS's of the United States. First, economic centers, mostly SMSA's were identified. Then, "intervening counties were allocated to the centers. This assignment was made primarily on the basis of the journey-to-work pattern around the economic centers, but other economic ties such as telephone traffic, bank deposits, television viewing, newspaper circulation and topography were also used...."

One the major advantages of the new definition, according to Berry and Kasarda, is the "high degree of 'closure' with respect to the job and housing markets, and in the territory sector of their economies." (Berry and Kasarda, 1977; Berry and Gilliard, 1977). This "closure" can easily be interpreted as the ecological unity sought by Friedmann and Miller (1965, pp. 313—14). There is an important difference, however: this time the ecological unit was defined more precisely. Other differences between the urban field and the daily urban system will be discussed in the next section.

A COMPARISON BETWEEN THE URBAN FIELD CONCEPT AND THE DAILY URBAN SYSTEM FORMULA

Lamb (1975) referred to the "urban field" and the "daily urban system" as completely synonymous terms. In our analysis we indeed found a large degree of similarity, but with a few essential differences. Both consist of the same four elements. Conceptually they are in agreement not only about the larger size, but also the conversion of the once rural, so-called "supplementary area" into an integral part of the urban area (Berry and Kasarda, 1977, pp. 294—304), and about the ecological unity and the cohesiveness of the large urban unit. This last element was strongly demonstrated by Berry, who used the percentage of commuters to several job-providing centers in the SMSA, and especially to the CBD and central city, in order to define the boundaries of the DUS's (Berry and Gilliard, 1977, p. 24).

The emphasis upon the cohesiveness of the larger urban unit presumably arises from the need to distinguish between this view and the alternative apocalyptic view of a dispersed urban society without nucleus cities. This other view was expressed by Martindale in the well-known phrase, "the age of the city seems to be at an end" (Martindale, 1958, p. 62). More recently, Kristol (1972) made the same claim in an article titled, "America's Future Urbanization, An Urban Civilization Without Cities." Thus, in order to keep away from this extreme view, the proponents of the urban field and DUS regarded the enlarged city as a coherent unit possessing cores and borders. It was admitted, however, that overlapping may occur on the fringe of two urban units (Friedmann and Miller, 1965, p. 313; Berry and Kasarda, 1977, p. 287).

So far we have discussed the similarities between the urban field and the DUS, but there are at least three differences. The first concerns the criterion for defining boundaries. Berry used the criterion of the journey to work, and delimited the DUS or the commuting field "by the zero contour beyond which there is no reported inward (daily) commuting" (Berry and Gilliard, 1977, p. 24). Friedmann and Miller (1965), on the other hand, suggested the use of "the exchange relations within each field on an annual basis instead of at a single point in time." This is because they perceived the urban field as a unit which includes nearby recreational facilities used on a seasonal basis, mainly by the population of the same unit. Berry's DUS is an inward looking unit, while Friedmann and Miller adopted an outward orientation. The second difference derives directly from the first one. The urban field, based on annual circulation, is a larger unit than the daily urban system. The third difference is that the urban field was introduced as a vaguely defined concept with the purpose of stimulating further research, whereas Berry's DUS, which seems to be a response to that challenge, is a strictly defined term based on operational measurements.

It is probably due to these differences that Berry was more cautious than his student, R. Lamb, and did not mention the urban field in relation to the DUS or to the commuting field.

Missing elements in the discussion of the urban field and the dus

Another similarity which characterizes both the urban field and the DUS is the lack of reference to expansion as a process and to internal reorganization. In regard to the expansion process they merely analyzed a few of the diffusive forces without integrating them into a cause-effect chain of events. They paid even less attention to internal reorganization. Friedmann and Miller (1965, pp. 314—15) found it sufficient to write that "the view of the city is no longer of a physical entity, but of a pattern of point locations and connecting flows of people, information, money and commodities. . . . The present dominance of the metropolitan core will become attenuated." Berry and Kasarda (1977, p. 304) summarized their discussion of the DUS with the statement that "a multinode, multiconnective system has replaced the core dominated metropolis. . . ."

Both pairs of researchers conclude that there is a need for new "abstract models" which "are not yet in sight" (Friedmann and Miller, 1965, p. 319), or "a new definitive theory" which "has yet to be written" (Berry and Kasarda, 1977, p. 267).

To conclude this discussion it must be said that a few necessary building blocks for the construction of such a model are still missing. There is not enough spatial statistical analysis of the new trends in the urban field and especially in the outer ring; an attempt to describe the new pattern has not yet been made; and an analysis of the process at work is still incomplete. It is hard to expect the construction of a model or the formulation of a theory before those undertakings are accomplished.

The balance of this paper will attempt to relate the new concepts to old models and terms.

THE URBAN FIELD AND THE URBAN FRINGE

The term "urban field" refers to the entire urban unit, but its outer expanding ring (the peripheral urban field) may be compared with a well-known and long-established term — the "urban fringe." Perhaps urban fringe research can cast

more light on the expanding urban field inquiry.

The urban fringe literature deals with four main topics (see Pryor, 1968, 1969):

1. defining the inner and outer boundaries of the urban fringe;
2. describing the land-use pattern in the urban fringe;
3. analyzing the socio-economic structure of the urban fringe population; and
4. analyzing the centrifugal driving forces of those trends.

The first topic seems to lose its significance in the context of the urban field. The outermost boundaries of the urban field are defined either by the end of the commuting field or by the edge of the recreational area. Similarly, delineation of the boundaries between the suburbs and the urban fringe (Murphy, 1966) becomes less important when we regard both of them as parts of the same unit. Even the most frequently used criterion for delineation of the urban fringe — the proportion of rural land use (Pryor, 1968, pp. 204—6) — becomes less meaningful, since the permissive urban field definition allows much rural land to be included in the urban area. Such distinctions may be useful, given the new definition of the urban unit, only to describe the internal structure of the enlarged urban area.

The other topics in the literature of the urban fringe may be of greater help in understanding patterns and processes in the urban field. The pattern of development and the changing social structure in the outer ring of the urban field is not necessarily of a new type, unknown in the past. The current, extremely wide expansion of the urban field may be just an extension of the urban fringe as affected by modern technology. Since "the urban fringe has always been with us" (Thomas, 1974, p. 17), we may borrow ideas developed in that literature.

Unfortunately, a review of the urban fringe literature reveals that the pattern of development there has not yet been modeled. A few descriptive studies are available, however.

The work of Wehrwein (1942), which has "come to be considered as the early formative paper in this field of study," is devoted to the examination of land-use structure. Wehrwein found that "growth does not take place equally on the periphery of the city," and that there are even "remote points of growth." He described the rural-urban fringe as "consisting of rural territory peirced by finger-like (or star-shaped) projections of urbanized land uses. . . . In between the arms of the star, agriculture and other non-urban land uses continue but in more or less modified forms." He also identified a rapid deterioration of the agricultural output: "land which according to its location should be growing the crops. . . is lying idle." In his field study around Indianapolis he found that the urban-rural fringe is used, not only for industrial deconcentration, but also for recreational purposes and for unwanted or land-demanding urban facilities like slaughter houses, cemeteries, airports, and the like. He pointed out three major characteristics of the urban fringe:

- a. rapid yet unequal expansion, with some remote points of growth;
- b. deterioration of agricultural land; and
- c. invasion of new non-residential land uses.

Writers who later analyzed land use in the ever-expanding urban fringe discovered a gradual intensification of those trends, with a few new findings.

a. Detached point of growth

Harvey and Clark (1965) classified the physical pattern of urban sprawl into three

major forms: low-density continuous development; ribbon development sprawl; and leap-frog development. At this time the third one is the most prominent.

Johnson (1974), too, spoke about the "leapfrogging peripheral growth no longer so closely tied to areas already built-up. . . even not necessarily located on main roads leading outward from a city." Thus detached development, which began with some "remote points of growth," came to be the most common form of development occurring in the outer ring of the urban field.

b. Deterioration of agricultural land

Many papers have documented the deterioration of the farmlands near the urban fringe (Berkman, 1964). Sinclair (1962) even built a model which explains the abandonment of agricultural land on the fringe area and the increasing intensity of agricultural output with greater distance from the city (to a certain distance). His model is based on anticipation of urban encroachment; since the degree of anticipation is the highest in the vicinity of the city, the intensity of agricultural operation (investments) will be lowest there. Leithauser (1978), in a recent case study in Prince George's Country, Maryland, reported also that "the ill-maintained farm lands and buildings" leave "a feeling of slow death."

The relevant question for this study is whether this pattern of neglect will spread throughout the entire urban field. In other words, are urban land-uses expected to cover the whole enlarged urban unit? Intuitively, this possibility must be denied, due to the large area covered by the urban fields on the one hand, and the detached nature of development on the other. Borchert (1972) reports on a study which says that the circulation framework of the city is so extensive that it would not be fully built up within the next six centuries or more. Also, we assume that among the characteristics which people seek in the urban fringe is the environment of a smaller and better defined (territorially as well as socially) community in a rural setting. This may prevent, or at least slow down, the process of filling in the open spaces between the communities. Other open spaces which may be expected to exist in the urban field are urban-oriented commercial agricultural activities and large recreational areas. The peripheral urban field can be expected to be more 'tolerant' of nearby non-urban land uses.

c. Expansion of urban functions other than housing

Wehrwein wrote about the expansion of manufacturing industries, unwanted urban facilities, and recreational activities. Since his time, the use of the urban fringe of those functions has intensified, accompanied by other land uses. Berry and Cohen (1973) described the deconcentration of commerce and industry. Johnson (1974) wrote about "a second stage in the growth of urban fringe manufacturing. . . with the urban fringe itself providing the seedbed for further growth. . ." Stanback and Knight (1976, pp. 38—43) also wrote about "new institutional arrangements and real estate innovations", like industrial parks, office parks, and shopping centers. All of these have increased in distance, size, and number. These writers also analyzed the present and potential impact of locating airports in the urban fringe.

The most widely expanded function seems to be recreational activity. The demand for these activities "is being generated by rising real income, greater leisure, and increasing mobility" (Hansen, 1973, p. 12). Such factors motivated a powerful

centrifugal drift toward sites located far away from traditional suburbia (Lamb, 1975, pp. 186—8).

The third topic in urban fringe research concerns the socio-economic structure of the area's population. One of the most quoted researchers on this aspect, R.E. Pahl, identified four processes:

a. There is tendency toward social and spatial segregation, but middle-class newcomers settle down near neighboring villager communities.

b. Immigration into the urban fringe tends to be selective, due to the high cost of new privately built houses and the necessity of commuting to the city-center.

c. The commuting character of the urban fringe is changing, as more people travel longer distances between exurban communities and the city-center.

d. Geographical and social hierarchies tend to collapse. Because of the frequent contacts with the city-center, services within fringe settlements fail to develop along the lines predicted by central place theory (Pahl, 1965).

This seems to be a fairly good analysis of the situation that persists at the early stages of exurban development. Today, however, an essential change seems to be underway, which can be summarized as follows: During recent years more people were encouraged to move into the urban fringe, which grew in size and distance. The desire to continue patronizing city center services and facilities came to be more difficult, due mainly to the growing traffic congestion on the arteries leading toward the center (Kristol, 1974). Businessmen who perceived the increasing size of the fringe market and decreasing number of shoppers in the center opened new outlets in remote shopping centers (Berry and Cohen, 1973; Berry and Kasarda, 1977). Offices which felt the growing shortage of skilled female labor were also encouraged to move outside (Johnson, 1974, pp. 7—8). Circumferential highways were built to ease movement between one fringe area and another. All of these factors reduced the need for long journey-to-work and shopping trips for many people, thus clearing the way for the immigration of the lower middle income population into the urban fringe. This may eventually help in solving one of the more acute urban social problems, that of the separation between the poor populations in the city center and their potential workplaces at the outskirts (Stanback and Knight, 1976; Berry and Kasarda, 1977). If this chain of events is verified, three of Pahl's processes must be reconsidered: the changing commuting character may be towards a circumferential instead of a radial pattern (Stanback and Knight, 1976); the tendency toward selective immigration may change to more diversified immigration; and this in turn would reverse the tendency toward social and spatial segregation.

Having examined the questions of the emerging land-use patterns and socio-economic structures in the expanding urban fringe, we are now in a position to combine these two and imagine what the peripheral urban field looks like. Recent urban fringe and suburban literature reveals a rapid centrifugal drift of population and economic activities toward the expanding peripheries. These trends, in most cases, take place in the shape of detached development clusters surrounded by agricultural and other non-urban land uses (Johnson, 1974, p. 12—13). The clusters may range from uni-functional (residential, industrial park, office park, etc.) to multi-functional, and from a complete new 'village' to developments in old villages and established small towns. The traditional 'pioneers' of the fringe area came from

the highest income quintile of the population, but more recently there has been an infiltration of families from lower income levels. If the outflow of jobs continues we can expect the out-migration of mobile people from even lower income levels. The area of clusters of detached development in the peripheral urban field would then no longer be composed of selected income groups. On the contrary, it seems that today we are at the beginning of a trend toward a more diversified population in the peripheral urban field area.

THE OLD URBAN MODELS IN LIGHT OF THE NEW TRENDS

The question we now face is whether these developments can be analyzed within the framework of the old urban models, or represent a new pattern of urban order instead.

Johnson (1974, p. 13) presents a fairly conservative point of view. He admits that the morphology (structure) may well be different, but contends that the activity patterns in such a (dispersed) city will not be very different from those in the large modernized city of today. A more radical point of view is expressed by Friedmann and Miller (1965), and Berry and Kasarda (1977). They see, as we noted above, a need for new models or a new theory which will comprehend the emerging pattern. A brief critical review of the major urban models will prove this need.

a. Von Thunen's "Isolated state." (Hall, 1966): Wehrwein (1942) pointed out that "in this oversimplified scheme of land utilization there is no rural urban fringe. . . . The city boundaries set the limit of the 'urban way of life' — beyond it are farms and agricultural land uses." Von Thunen himself modified his model to include the influence of navigable arteries toward the city, but even the distorted circles cannot explain the irregular mixture of clusters within the agricultural lands. This is because the model is based on changes in the cost of transportation, while a decision upon an exact residential location in the fringe is largely affected by other reasons.

Sinclair (1967, p. 78) also criticized Von Thunen's model on the same ground. He showed that the most important factor explaining agricultural land uses to a certain distance around a city, is not the transportation cost, but the differences in the "anticipation to urban encroachment."

Alonso's (1968) application of Von Thunen's model to urban land-uses should also be reevaluated. Alonso based his model of location on the bidding power of a user who can take advantage of the better accessibility to a given point. This seems to work in the densely built-up areas of the city, but a major change in the location and magnitude of the accessible points seems to be underway. On the other hand, as far as the peripheral urban field is concerned, "accessibility may mean quite different things to different users of land." Therefore, it will be hard to determine which points are most accessible and what is the significance of the accessibility for the explanation of the land-use pattern (Johnson, 1974, p. 3).

b. Central Place Theory (CPT): Christaller (1933) constructed CPT to explain the location, number, and size of service centers in a regional context. The theory was later applied to the intra-city distribution of shopping centers (Berry and Horton, 1970, pp. 454—8). Today, with the emergence of the urban field, the theory

seems to collapse under new evidence. First, as J.R. Borchert pointed out, "a considerable body of tradition tells us that the great cities are supported economically by the resources of their hinterland. . . . [This] can no longer be true in terms of new growth of jobs and consequent new growth of individual buying power" (Borchert, 1972, p. 365). As a matter of fact, there are no longer city and region. Both of them are comprised in the urban field, "in which relations of dominance and dependency are transcended" (Friedmann and Miller, 1965, p. 313).

R. E. Pahl also pointed out the tendency toward the collapse of geographical and social hierarchies. This is because service provision fails to develop along the lines predicted by central place theory, and more specialized functions may appear in the fringe area, even in small centers (Thomas, 1974, p. 25). In addition, the CBD has lost much of its commercial strength, and now shares the highest rank in the hierarchy with several other centers in the urban field (Berry and Kasarda, 1977, p. 266). Pahl also argues that low-order functions might not be found in the small center because of the increasing number of commuters toward the city center. Earlier we supposed that this trend had been reversed.

c. Park and Burgess' Socio-Ecological Concentric Zone Theory (Burgess, 1933): This theory, despite its weaknesses (Berry and Horton, 1970, p. 307), seems to clarify at least one stage in the development toward the peripheral urban fringe. As a dynamic theory it is able to explain the "invasion" of the most affluent families into ever growing peripheries. Thereafter, however, the "succession" stage was not as complete as the theory predicts. First, the people of the old villages and small towns in the urban field tend to remain where they are. Second, the most affluent were followed by medium income groups. Finally, we supposed that the more mobile segment of the lower middle income level group may participate in this out-movement after the decentralization of jobs and various services. While this does not tend to abolish the behavioral tendency toward segregation, the segregation is assumed to take on another pattern, that of neighboring different communities, so that it is perhaps more accurate to speak about process of congregation rather than of segregation (Vance, 1976). This evolving pattern seems to fit better into Hoyt's sectoral model (Hoyt, 1939), or into Harris and Ullman's multiple nuclei concept (Harris and Ullman, 1945). If the trend toward greater socio-economic diversification in the fringe area can be demonstrated, we might have to modify our concepts concerning the spatial organization of the three basic dimensions revealed by the social area analysis.

SUMMARY: THE COMPONENTS OF A NEW URBAN ORDER

This paper has tried to gather some knowledge about the "urban field" concept. The term was defined through careful inspection of the article of that title by Friedmann and Miller (1965). Then it was compared with the definition of the DUS and related to the urban fringe literature. It was noticed that the emerging new urban pattern has some inconsistencies with the traditional urban models, as was pointed out in general by the aforementioned authors and by Berry and Kasarda (1977, p. 267). A comparison of the findings about the urban field with the models revealed that they are incapable of explaining one or more of the ingredients of the new urban order.

The major components of this new order seem to be as follows:

1. Unprecedentedly large scale: A large population is dispersed over a large region in such a way that city and region together (region being the area traditionally defined as the supplementary area of that city) equal the urban field.
2. Decreasing trips toward the central city: The population, especially those who live in the peripheral urban field, tend to cut back on the number of trips toward the central city in general and toward the CBD in particular.
3. Diffusion of urban functions: Most kinds of major urban land uses tend to diffuse throughout the entire urban field.
4. More evenly distributed land uses: Instead of the tendency toward steepening the distance-decay gradients, a reversal trend has been set in motion.
5. Detached clusters of development: The built-up area in the peripheral urban field takes the shape of separate units isolated by non-urban land uses (especially agriculture, woodland and large recreational open spaces).
6. Greater 'tolerance' toward non-urban land uses: The pressure toward the abolition of those land uses is expected to decrease.
7. Homogenous communitis: Each isolated community tends to congregate according to common characteristics (along socio-economic lines, age, or race).
8. Diversified neighboring communities: It seems that there will be a greater degree of tolerance toward the coexistence of socially different congregations across the dividing open space.

It is not hard to hypothesize that there are strong causal relationships among these components. We have not attempted to formulize them here, however, since this paper does not deal with the driving forces underlying the creation of the new urban order. Nor does it claim that the above components are a set of normative measures of a desired city. It points out merely that such are the ongoing trends in large urban units, as reflected through the last decade's urban literature.

REFERENCES

- Adams, J.S. (ed.) (1976), *Cities of the Nation's Historic Core*, University of Minnesota Press.
- Alonso, W. (1964), *Location and Land Use*, Cambridge, MA, The M.I.T. Press
- Beale, C.L. (1975), "Renewed Growth in Rural Communities," *The Futurist*, Vol. 9, pp. 196—202.
- Burgess, E.W. (1925), "Growth of the City," in: R.E. Park, E.W. Burgess and R.D. McKenzie, (eds.), *The City*, The University of Chicago Press, Chicago, pp. 47—62.
- Berkman, H.G. (1964), "Decentralization and Blighted Vacant Land," in: M.H. Mayer and C.F. Kohn, (eds.), *Readings in Urban Geography*, University of Chicago Press, Chicago, pp. 287—298.
- Berry, B.J.L. (1976), "The Counter Urbanization Process: Urban America Since 1970," in: B.J.L. Berry (ed.), *Urbanization of the Suburb*, Urban Affairs Annual Review, Vol. 7, Sage Publication, Beverly Hills, pp. 431—435.
- Berry, B.J.L. and Q. Gilliard, (1977), *The Changing Shape of Metropolitan America*,

- Ballinger, Cambridge, MA.
- Berry, B.J.L., P.G. Goheen and H. Goldstein, (1968), *Metropolitan Area Definition: A Re-Evaluation of Concepts and Statistical Practice*, Washington, D.C.: U.S. Government Printing Office.
- Berry, B.J.L. and F.E. Horton, (1970), *Geographic Perspectives on Urban Systems*, Prentice-Hall, NJ.
- Berry, B.J.L. and J.D. Kasarda, (1977), *Contemporary Urban Ecology*, Macmillan Publishing Co., NY.
- Borchert, J.R. (1972), "America's Changing Metropolitan Regions," *Annals of the A.A.G.*, Vol. 62, pp. 352—373.
- Christaller, W. (1933), *Die Zentrale Orte in Süddeutschland*, Jena, Gustav Fischer Verlag.
- Clout, H.D. (1974), "The Growth of Second-Home Ownership: An Example of Seasonal Suburbanization," in: J.H. Johnson, *Suburban Growth*, John Wiley, London, pp. 101—127.
- Friedmann, J. and J. Miller, (1965), "The Urban Field," *Journal of the American Institute of Planners*, Vol. 31, pp. 312—320.
- Hall, P. (ed.), (1966), *Von Thunen's Isolated State*, London Pergamon Press.
- Hansen, N.M., (1973), *The Future of Nonmetropolitan America*, Lexington Books, Lexington, MA.
- Hoyt, H. (1939), *The Structure and Growth of Residential Neighborhoods in American Cities*, U.S. Federal Housing Administration, Washington, D.C.
- Hoyt, H. (1964), "Recent distortions of the Classical Models of Urban Structure," *Land Economics*, Vol. 40, pp. 199—212.
- Harvey, R.O. and W.A.V. Clark, (1965), "The Nature and Economics of Urban Sprawl," *Land Economics*, Vol. XLI, pp. 1—19.
- Johnson, J.H. (1974), "Geographic Processes at the Edge of the City," in: J.H. Johnson, (ed.), *Suburban Growth*, John Wiley, London, pp. 1—16.
- Kristol, I. (1974), "American Future Urbanization: An Urban Civilization Without Cities," in: J.W. Hughes, (ed.), *Suburbanization Dynamics and the Future of the City*, Center for Urban Policy Research, Rutgers University, New Brunswick, NJ, pp. 271—282.
- Lamb, R. (1975), *Metropolitan Impacts on Rural America*, The University of Chicago, Dept. of Geography, Research Paper No. 162.
- Leithauser, G.A. (1978), "The Rural-Urban Fringe: Visual Images of a Transitory Landscape," Unpublished paper.
- Martindale D. and G. Neuwirth, (1958), (eds. & translators), *The City*, The Free Press, p. 62.
- Murphy, R.E. (1966), *The American City*, McGraw-Hill, NY.
- Pahl, R.E. (1966), *Urbs in Rure: The Metropolitan Fringe in Hertfordshire*, London.
- Pryor, R.J. (1968), "Defining the Rural-Urban Fringe," *Social Forces*, Vol. 47, pp.

202—215.

Pryor, R.J. (1969), "Delineating Outer Suburban and the Urban Fringe," *Geografiska Annaler*, Vol. 51B, pp. 33—8.

Sinclair, R. (1967), "Von Thunen and the Urban Sprawl," *Annals of the A.A.G.*, Vol. 57, pp. 72—87.

Stanback, T.M., Jr. and R.V. Knight, (1976), *Suburbanization and the City*, Allenheld Osmun and Co., Montclair, NJ.

Sternlieb, G.S. and J.W. Hughes, (1977), "New National and Metropolitan Realities in America," *Journal of American Institute of Planners*, Vol. 43, pp. 227—241.

Thomas, D. (1974), "The Urban Fringe: Approaches and Attitudes," in: J.H. Johnson, (ed.), *Suburban Growth*, John Wiley and Sons, London, pp. 17—30.

Tucker, C.J. (1976), "Changing Patterns of Migration Between Metropolitan and Nonmetropolitan Areas in the U.S.: Recent Evidences," *Demography*, Vol. 13, pp. 435—443.

Vance, J.E. (1976), "The American City Workshop for a National Culture," in: J.S. Adams, (ed.), *Cities of the National Historic Core*, University of Minnesota Press, pp. 1—50.

Weber, M. (1958), *The City*, Glencoe, IL, The Free Press.

Wehrwein, G.S. (1942), "The Rural-Urban Fringe," *Economic Geography*, Vol. 18, pp. 217—228.